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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,335	07/27/2001	Masafumi Sakamoto	212030US2	9250

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EXAMINER

GONZALEZ, JULIO C

ART UNIT PAPER NUMBER

2834

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/915,335

Applicant(s)

SAKAMOTO, MASAFUMI

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the battery disclosed in claim 5 must be shown or the feature(s) canceled from the claim(s).
No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims disclose a voltage of a battery been controlled by chopping. The specifications are not clear enough as to how the chopping would be performed to

the battery in order to step down/up the voltage. Is a separate chopping circuit been used? Or is the electrical machine performing the voltage changes to the battery? Also, the formulas disclosed in claim 3, for example, are not clear enough as to how the used of such formulas affect the electrical machine. What are the limits of the values that may be entered in the formulas?

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Regarding claims 1-3, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

6. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App.

& Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 5-8 recite the broad recitation a rotational electric machine, and the claim also recites a rotational electric machine which is obtained by changing an outer roller type rotational electrical machine or in a rotational machine of inner rotor type and of a 3-phase HB type which is the narrower statement of the range/limitation.

7. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 2, what is meant by having an outer rotating body mounted on an outer portion or on a side portion? Can the outer rotating body be located at one

location or at both locations at the same time? How are the main poles provided so as to extend from the magnetic substance?

In claim 5, how are the formulas affecting the voltage of the battery? Also, 2k is disclosed to be the number of main poles, but such variable does not exist in the formulas.

In claim 7, how is the positional information of the rotor obtained? What specific device is performing such task? Also, the variables 3m and 6k are not defined in the formulas.

In order to advance prosecution in the merits, the Prior Art will be applied as best understood by the examiner.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by

Asai et al.

Asai et al discloses an electric machine having a stator 32 having poles with windings (see figure 15), an outer rotor magnet 3 and the rotor and stator being separated by a gap and an outer rotating body 31 mounted on an side or outer portion of the rotor (see figure 14).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over unpatentable over Asai et al in view of Nakagawa.

Asai et al discloses an electric machine having a stator 32 having poles with windings (see figure 15), an outer rotor magnet 3 and the rotor and stator being separated by a gap and an outer rotating body 31 mounted on an side or outer portion of the rotor (see figure 14).

However, Asai et al does not disclose having an outer rotor with teeth on an inner circumference.

On the other hand, Nakagawa discloses for the purpose of making a motor that can provide a larger torque, an outer rotor 21 with teeth in the inner circumference (see figure 5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an electrical machine as Asai et al and to modify the invention by having teeth on an inner side of a rotor for the purpose of making a motor that can provide a larger torque as disclosed by Nakagawa.

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asai et al in view of Seguchi et al.

Asai et al discloses an electric machine having a stator 32 having poles with windings (see figure 15), an outer rotor magnet 3 and the rotor and stator being separated by a gap and an outer rotating body 31 mounted on an side or outer portion of the rotor (see figure 14).

However, Asai et al does not disclose having a reduction gear.

On the other hand, Seguchi et al discloses for the purpose of controlling more efficiently the output power of a battery and an engine, a reduction gear 1830 may be used in electrical machines (see figure 5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an electrical machine as Asai et al and to modify the invention by having a reduction gear for the purpose of controlling more efficiently the output power of a battery and an engine as disclosed by Seguchi et al.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asai et al in view of Arnaud et al and ordinary skill in the art.

Asai et al discloses an electric machine having a stator 32 having poles with windings (see figure 15), an outer rotor magnet 3 and the rotor and stator being separated by a gap and an outer rotating body 31 mounted on an side or outer portion of the rotor (see figure 14).

However, Asai et al does not disclose having a chopping circuit controlling a voltage.

On the other hand, Arnaud et al discloses for the purpose of making a more efficient and reliable electrical traction system, a chopper D and E which control the voltage of a battery (see figure 2a & column 4, lines 27-31).

However, neither Asai et al nor Arnaud et al disclose the ranges that may be obtained using the formulas disclosed in the claim.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to come with those optimum ranges that the applicant discloses, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In *re Aller*, 105 USPQ 233.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an electrical machine as Asai et al and to modify the invention by using a chopping system for the purpose of making a more efficient and reliable electrical traction system as disclosed by Arnaud et al.

14. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asai et al and Nakagawa as applied to claim 2 above, and further in view of ordinary skill in the art.

The combined machine discloses all of the elements above. However, the combined machine does not disclose the ranges disclosed by the formulas or the optimum values.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to come with those optimum ranges that the applicant may obtain using the formulas, since it has been held that where the general conditions

of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In *re Aller*, 105 USPQ 233.

Also, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the optimum value of 90 degrees, since it has been held that discovering the optimum value of result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



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December 24, 2002